

What is claimed is:

1. An apparatus for applying massage, accupressure and biomagnetic therapy to a subject, the apparatus comprising:

5 a housing having a proximal end and a distal end;

a motor disposed within the housing and having a shaft;

a magnet disposed within the housing about the shaft;

10 a rotor rotatably supported by the shaft at the distal end of the housing, the rotor having an exterior face which is remote from the magnet and which defines a plurality of entrances, an opposing interior face proximate to the magnet, and a seat more proximate to the magnet than the interior face which is in communication with each of the entrances, each seat being affixed relative to the rotor at one or more locations proximal to the exterior face;

15 a plurality of metal balls which are seatable against the seat and retained within the entrances of the rotor solely by a magnetic field emanating from the magnet, each ball having a center and being universally rotatable about its center; and

wherein the seat precludes contact of the metal balls with the magnet and counters forces applied to the balls when the apparatus applies therapy to the subject.

2. The apparatus of claim 1, wherein the seat comprises a solid surface

20 extending at least to the interior face of the rotor, and wherein the solid surface is free of any openings to the entrance.

3. The apparatus of claim 2, wherein the solid surface comprises a dome having a shape substantially complementary to the metal balls.

4. The apparatus of claim 1, wherein the seat comprises a substantially hemispherical surface extending at least to the interior face of the rotor.

5. The apparatus of claim 4, wherein the hemispherical surface includes a plurality of windows formed therein.

10 6. The apparatus of claim 4, wherein the hemispherical surface has a concavity sized to receive at least a portion of the metal ball and wherein the concavity includes one or more bumps disposed thereupon, the bumps defining a contact surface for the metal balls.

15 7. The apparatus of claim 1, wherein the seat is affixed to the rotor at the interior face thereof.

8. The apparatus of claim 1, wherein the seat includes a finger which is affixed to the interior face of the rotor.

20 9. The apparatus of claim 8, wherein each support finger has one of a linear and an arcuate shape.

10. The apparatus of claim 8, wherein the seat includes a plurality of fingers each having one end connected to the seat and an opposite end affixed to the interior face of the rotor, the fingers and seat defining a cage for receiving the metal ball and countering forces applied to the balls when the apparatus supplies therapy to the subject.

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11. The apparatus of claim 10, wherein each cage has an interior space in communication with a respective entrance and has a size sufficient to permit an associated metal ball to be received therein and a strength that counters forces applied to the balls when the apparatus supplies therapy to the subject.

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12. The apparatus of claim 10, wherein adjacent fingers are spaced from one another.

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13. The apparatus of claim 1, further comprising:
a resilient support between the motor and the housing permitting the shaft of the motor to be displaced;

a first feature associated with the housing and an interchangeable, second feature associated with the rotor,

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wherein the first and second features are positioned so as to selectively interact upon rotation of the rotor, the interaction resulting in a displacement of the shaft against a restoring force of the resilient support,

whereby vibrations are imparted to the metal balls for applying an enhanced therapy to the subject.

14. The apparatus of claim 13, wherein the second feature is mounted so as to
be stationary relative to the rotor.

5 15. The apparatus of claim 13, wherein the second feature comprises one of
an element that is sized and shaped to interact with the first element upon rotation of the rotor
and an element that is sized and shaped so as to be clear of the first element upon rotation of the
rotor, whereby vibration can be selectively applied to the subject by upon exchanging one
element for the second feature for another.

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16. The apparatus of claim 1, further comprising a second motor coupled to
the motor so as to introduce an oscillatory motion to the rotor upon actuation of the second
motor.

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17. The apparatus of claim 16, wherein one of the motor and the second motor
is movably coupled to the housing.

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18. The apparatus of claim 17, wherein the motor has a fixed first cam
associated therewith and the second motor has a second cam associated therewith, wherein
actuation of the second motor causes radial movement of the second cam resulting in the
second cam striking the fixed first cam and the pivotal movement of the motor which results
in axial displacement of the rotor from a rest position, the second motor having a biasing
element associated therewith such that once the fixed first cam is free of engagement with the

second cam, the second motor is naturally biased by the biasing element toward the rest position before the second cam strikes the fixed first cam again.

5 19. The apparatus of claim 16, wherein the second motor has a rotatable drive shaft with a platform attached at one end thereof, the second cam being formed on and extending outwardly from the platform.

10 20. The apparatus of claim 16, wherein the first motor is pivotally attached to the housing in such a way that the striking action between the first and second cams is translated into an oscillating motion for the rotor.

15 21. The apparatus of claim 16, wherein the second motor is disposed above the first motor with the first and second cams being in the same plane in the rest position and the fixed first cam is positioned with a radial path of the second cam.

22. The apparatus of claim 1, wherein the rotor has a collar that detachably interlocks with a sleeve associated with the shaft.

20 23. An apparatus for applying massage, acupressure and biomagnetic therapy to a subject, the apparatus comprising:

- a housing having a proximal end and a distal end;
- a motor disposed within the housing and having a shaft;
- a magnet disposed within the housing about the shaft;

a rotor rotatably supported by the shaft at the distal end of the housing, the rotor having an exterior face which is remote from the magnet and which defines a plurality of entrances, an opposing interior face proximate to the magnet and which defines a plurality of exits, and a plurality of apertures extending from each entrance to a respective exit;

5 a plurality of metal balls each having a center and an outer diameter and being retained at least partially within one of the plurality of apertures solely by a magnetic field emanating from the magnet, each metal ball being supported for universal rotation about its respective center; and

10 a substantially continuous abutment disposed between each entrance and respective exit, the abutment engaging the metal balls and preventing the metal balls from contacting the magnet while simultaneously countering forces applied to the balls when the apparatus applies therapy to the subject.

15 24. The apparatus of claim 23, wherein the metal balls, once retained in the rotor, have their outer diameter recessed within the exterior face of the rotor such that more than 50% of the metal balls are within the plurality of apertures.

20 25. The apparatus of claim 23, wherein the rotor has a collar that detachably interlocks with a sleeve associated with the shaft.

26. The apparatus of claim 23, wherein the substantially continuous abutment comprises a taper extending into the apertures.

27. The apparatus of claim 23, wherein the substantially continuous abutment comprises a permanent, ring magnet affixed to the rotor with its magnetic poles arranged in opposite polarity to that of the magnet whereby the metal balls normally float in spaced relation to the ring magnet within the apertures.